

## ABSTRACT OF THE DISCLOSURE

A system and method for transmitting parallel data from a source to a destination over a plurality of high speed serial lines operates reliably even in the presence 5 of data skew. The high speed data transmission system includes a protocol generator, a de-skew circuit, and a plurality of high speed serial lines coupled between the protocol generator and the de-skew circuit. Respective serial representations of parallel data words are 10 transmitted to the destination over a plurality of serial data lines, and a clock signal is transmitted to the destination over a clock line in parallel with the serial data lines. The clock signal has at least one data bit of each parallel data word encoded thereon. The de-skew 15 circuit aligns regenerated parallel data words using the respective data bits encoded on the clock signal to eliminate skew among the data bits, and regenerates the parallel data from the aligned parallel data words.

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